Amendments to the Claims:

1. (currently amended) A method comprising:

using information from incoming packets to access stored partial header information; and

in hardware, using the stored partial header information and the incoming packets to calculate additional information, the additional information including at least one length field and at least one error check field, the output of the hardware being the incoming packet encapsulated by one or more protocols, wherein the hardware includes protocol header insert units and an Ethernet frame CRC unit.

2. (original) The method of Claim 1 wherein the one or more protocols includes the IP protocol.

3. (currently amended) The ~~system~~ method of Claim 1 wherein the one or more protocols includes ~~the~~a UDP protocol, ~~the~~a IP protocol and an Ethernet protocol.

4. The method of Claim 1 wherein the additional information includes at least one length field and at least one error check field.

5. The method of claim 4 wherein the additional information includes a UDP message length, a UDP checksum value, an IP header checksum, an IP total length value, an Ethernet frame payload length and an Ethernet CRC value.

6. The method of Claim 1 wherein the method is implemented in a network interface.

7. The method of Claim 6 wherein the network interface is in a radio network controller of a UMTS system.

8. The method of Claim 1 wherein the incoming packets are AAL packets.

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9. The method of Claim 8 wherein the information from incoming packets includes virtual channel (VC) information.

10. The method of Claim 8 wherein information form incoming packets includes virtual channel (VC) information and subchannel ID (CID) information.

11. The method of Claim 1 wherein software constructs partial header information and stores the partial header information.

12. (currently amended) The method of Claim 11 wherein the software uses a linked data buffer to store the constructed partial header information along with incoming packets in a linked list including a first pointer to the header data and a second pointer to the buffered incoming packet, the first pointer being the same for each stored incoming packet of a session.

Claims 13-14 (cancelled)

15. (currently amended) A method comprising
for a session, constructing and storing partial header information, the partial header information including source and destination fields;
using information from incoming packets to access the stored partial header information, the same partial header information being used for each incoming packet of the session; and
in hardware, using the stored partial header information and the incoming packets to calculate additional information, the additional information including at least one length field and at least one error check field, the output of the hardware being one of the incoming packets encapsulated by one or more protocols, wherein the hardware includes protocol header insert units and an Ethernet frame CRC unit.

16. The method of Claim 15 wherein the source and destination fields are addresses.

17. The method of Claim 15 wherein the source and destination fields are source and destination port fields.

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18. The method of Claim 15 wherein the one or more protocols includes the IP protocol.

19. (currently amended) The method of Claim 18 wherein the one or more protocols includes ~~the~~a UDP protocol, ~~the~~a IP protocol and an Ethernet protocol.

20. (currently amended) The method of claim 15 wherein the additional information includes a UDP message lengths, a UDP checksum value, an IP header checksum, an IP total length value, an Ethernet frame payload length and an Ethernet CRC value.

21. The method of Claim 15 wherein a unit appends a incoming packet length to the incoming packet.

22. The method of Claim 21 wherein the hardware uses the appended length to calculate the additional information.

23. The method of Claim 15 wherein the incoming packets are AAL2/AAL5 packets.

24. (currently amended) A method comprising:
reassembling AAL packets from ATM cells;
using information form the AAL packets to access stored partial header information; and
in hardware, using the stored partial header information and the AAL packets to calculate additional information, the additional information including at least one length field and at least one error check field, the output of the hardware being an AAL packet encapsulated by one or more protocols, at least one of the one or more protocols being the IP protocol, wherein the hardware includes protocol header insert units and an Ethernet frame CRC unit.

25. (currently amended) The ~~m~~Method of Claim 24 wherein the reassembling units appends a AAL packet length to the AAL packet.

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26. The method of Claim 24 wherein the information from the AAL packets include CID and VC information for an AAL2 packet or VC information for an AAL5 packet.

27. The method of Claim 24 wherein the one or more protocols includes the IP protocol.

28. (currently amended) The method of Claim 24 wherein the one or more protocols includes the~~a~~ UDP protocol, the~~a~~ IP protocol and an Ethernet protocol.

29. The method of Claim 24 wherein the at least one error check field is a checksum field.

30. The method of Claim 24 wherein at least one error check field is a CRC field.

31. The method of Claim 24 wherein software stores a pointer to the stored partial header information in a linked data buffer.

32. The method of Claim 31 wherein the software also stores a pointer to the buffered incoming packet in the linked data buffer.

33. The method of Claim 24 wherein the hardware receives the AAL packet length.

34. The method of Claim 24 wherein the reassembly step includes appending the AAL packet length to the AAL packet.

35. (currently amended) A method comprising:
reassembling AAL packets form ATM cells;
using information from the AAL packets to access stored partial header information; and
in hardware, using the stored partial header information and the AAL packets to calculate additional information, the additional information including a UDP message length, a UDP checksum value, an IP header checksum, an IP total length value, an Ethernet frame payload length and an Ethernet frame CRC value, the output of the hardware being an AAL packet

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payload encapsulated according to the UDP protocol, IP protocol, and an Ethernet protocol, wherein the hardware includes protocol header insert units and an Ethernet frame CRC unit.

36. A network controller ~~including~~comprising:

software adapted to store partial header information for a session, the session indicated by information from incoming packets, the stored partial header information including source and destination information for at least one protocol, the same partial header information being used for each incoming packet of the session; and

hardware receiving the stored partial header information and the incoming packets, the hardware adapted to calculate additional information for outgoing data, the additional information including at least one length field and at least one error check field, wherein the hardware includes protocol header insert units and an Ethernet frame CRC unit.

37. The network controller of Claim 36 wherein the software stores the partial header information and incoming packet in a buffer.

38. The network controller of Claim 36 wherein a linked list includes pointers to the partial header information and buffered incoming packet.

39. The network controller of Claim 36 wherein the network controller is part of a radio network controller in a UMTS system.

40. The network controller of Claim 36 wherein at least one error check field is a checksum.

41. The network controller of Claim 36 wherein at least one error check field is a cyclical redundancy check field.

42. The method of Claim 36 wherein the incoming packets are encapsulated in at least one additional protocol.

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43. (currently amended) The network controller of Claim 36 wherein the incoming packets are encapsulated in ~~the~~a UDP protocol, a IP protocol and ~~the~~an Ethernet protocol.

44. The network controller of Claim 36 wherein the incoming packets are AAL packets.

45. (currently amended) The network controller of claim 36 wherein the additional information includes a UDP message lengths, a UDP checksum value, an IP header checksum, an IP total length value, an Ethernet frame payload length and an Ethernet CRC value.

46. (currently amended) A network controller ~~including~~comprising:

software adapted to store partial header information for a session, the session indicated by information from incoming packets, the stored partial header information including source and destination information for ~~the~~a UDP protocol, an IP protocol, and an Ethernet protocol, the same partial header information being used for each incoming packet of the session; and

hardware receiving the stored partial header information and the incoming packets, the hardware adapted to calculate additional information for outgoing data, the additional information including a UDP message length, a UDP checksum value, an IP header checksum, an IP total length value, an Ethernet frame payload length and an Ethernet CRC value, the output of the hardware being an AAL packet payload encapsulated according to the UDP protocol, IP protocol and the Ethernet protocol, wherein the hardware includes protocol header insert units and an Ethernet frame CRC unit.

47. (currently amended) A UMTS system ~~including~~comprising:

a radio network controller including a network interface, the network interface including software adapted to store partial header information for a session, the session indicated by information from incoming packets, the stored partial header information including source and destination information for at least one protocol, the same partial header information being used for each incoming packet of the session; and

hardware receiving the stored partial header information and the incoming packets, the hardware adapted to calculate additional information for outgoing data, the additional

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information including at least one length field and at least one error check field, wherein the hardware includes protocol header insert units and an Ethernet frame CRC unit.

48. (currently amended) A method comprising:

buffering incoming packets and partial header information for a session;

producing a linked list of pointers to the partial header information for a session and buffered incoming packets, to provide a linked data buffer; and

in hardware, using the stored partial header information and the incoming packets form the linked data buffer to calculate additional information, the additional information including at least one length field and at least one error check field, the output of the hardware being the incoming packet encapsulated by one or more protocols, wherein the hardware includes protocol header insert units and an Ethernet frame CRC unit.

49. (currently amended) A network controller includingcomprising:

a linked data buffer including buffered incoming packets and partial header information for a session and a linked list of pointers to the partial header information for a session and buffered incoming packets; and

hardware receiving the stored partial header information and the incoming packets from the linked data buffer, the hardware adapted to calculate additional information for outgoing data, the additional information including at least one length field and at least one error check field, wherein the hardware includes protocol header insert units and an Ethernet frame CRC unit.

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